studies with NAS score = 5, although without ballooning. Once validated, the test was applied to the follow-up of the patients (weight = 84 ± 14 kg; BMI = 31 ± 4 kg/m²). 31% of the patients lose at least 5% of baseline body weight. Among those responders, 50% improved their diagnosis presenting positive post-interventional shifts from NAFLD to steatosis or steatosis to healthy liver. The original diagnosis remained unchanged for the 95% of the non-respondent patients.

Conclusions: The results obtained in the independent cohort support the feasibility of these lipidomic tests as a noninvasive tool for NAFLD diagnosis and to monitor the disease progression/regression while circumventing the need for repeat liver biopsy.

Cristina Alonso, Itziar Mincholé and Ibon Martínez-Arranz are OWL employees

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Treatment outcome for NRTI-sparing regimen consisting of dolutegravir and rilpivirine in HIV-1 infected patients

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Objectives: The nucleoside reverse transcriptase inhibitors (NRTI) have been an important ‘back-bone’ of an antiretroviral therapy (ART) for HIV-1 infected patients. However, these agents have been associated with both short and long-term toxicity. Therefore, there has been growing interest in evaluating NRTI-sparing regimens. Now we have administered dolutegravir (DTG) and rilpivirine (RPV) to HIV-1 infected patients as a new NRTI-sparing regimen. However, there are few data on the outcome of ART regimen consisting of DTG and RPV. In this study, we examined treatment outcome for this NRTI-sparing regimen in HIV-1 infected patients.

Method: We examined 27 HIV-1 infected patients treated with NRTI-sparing regimen consisting of DTG and RPV in Nagoya Medical Center, Japan. We checked efficacy and safety for this regimen from 2014 to 2015, retrospectively.

Results: Median duration of this NRTI-sparing regimen for 27 Japanese HIV-1 infected patients (26 males, 1 female; mean age 57 years) was 323 days. The reasons for changing to this regimen were pill burden (n=13), lipodystrophy related to NRTI (n=7), myelopathy (n=2), renal dysfunction (n=1), dyslipidemia (n=1), respectively. Finally, 25 patients have continued this regimen. After starting this regimen, HIV viral load were soon less than the detection limit for all patients. Virologic failure and regimen discontinuations by severe adverse reactions were not confirmed for individuals. In addition, abnormal laboratory data (ALT, AST, etc) were not shown for all patients.

Conclusions: Current UK and US treatment guidelines do not recommend NRTI-sparing regimens for people starting ART due to concerns about toxicity, treatment discontinuation, and drug resistance. In this study, 12 patients had been already treated with NRTI-sparing regimen (Raltegravir + RPV). As these patients were elder, it was essential to reduce pill burden. Therefore, a new NRTI-sparing regimen, DTG + RPV, will be available in the future because of reducing pill burden, few drug interactions and low toxicity.

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Mirtazapine induced steatosis

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Introduction: Mirtazapine is a commonly used drug indicated for the treatment of severe depression. It works as a presynaptic alpha2-adrenoceptor antagonist which increases central noradrenergic and serotonergic neurotransmission. Although steatosis is not a noted side effect or risk in the British National Formulary, we present a case of mirtazapine induced steatosis in a 48-year-old office worker in the absence of any other risk factors, discuss management options and review the literature associated with drug induced steatosis.

Case description: A 48-year-old woman with a past medical history of pernicious anaemia, hypertension and depression was admitted with a two day history of painless jaundice and a three week history of peripheral oedema and lethargy. No other stigmata of liver disease were present. Medications included once daily Ramipril 2.5mg and Mirtazapine 15mg (recently started). She denied any alcohol use/unprotected sex/recent travel. On admission, her bilirubin level was 199umol/L (normal < 26umol/L), eventually peaking at 320umol/L within four days and her alkaline phosphatase level was 158U/L (normal 35-100U/L). Full liver screen was normal.

Results and conclusions: Liver ultrasound and CT imaging of the abdomen/pelvis did not yield a cause for her acute jaundice. An ERCP with sphincterotomy and balloon trawl was also negative. Subsequent liver biopsy indicated marked steatosis with active steatohepatitis and early fibrosis which were not consistent with large bile duct obstruction. Experimentally, and with no other identifiable cause for her worsening jaundice, her mirtazapine was stopped. Her liver function results improved immediately with notable improvements in her bilirubin and ALP levels. She subsequently made a full recovery.

Take-home message: We demonstrate a case where no autoimmune/anatomical infectious or alcohol pathology accounted for the significant steato-hepatitis. Furthermore, with withdrawal of Mirtazapine, the patients’ liver function rapidly improved, giving a Naranjo score of 7, thus suggesting a highly probable adverse drug reaction induced by Mirtazapine. Mirtazapine induced hepato-toxicity is rare, probably owing to toxic intermediates following cytochrome p450 metabolism. Acute steatosis is even rarer, and may reflect weight gain caused by the offending drug. We conclude that drug causes should always be sought following exclusion of all other causes.

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Usefulness of repetitive transcranial magnetic stimulation for the recovery of central cord syndrome

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Objectives: Repetitive transcranial magnetic stimulation (rTMS) can modulate neuronal circuits and also enhance spinal cord plasticity. Our aim of this study was to delineate the effect of rTMS on the functional recovery of upper extremity in patients with incomplete spinal cord injury, especially central cord syndrome (CCS), and detect the changes of spinal cord tracts crossing the lesion by diffusion tensor imaging (DTI).
Method: Fourteen patients with CCS, which level of injury was between C4 to C6, were performed rTMS with high frequency (20Hz) over the unilateral motor cortex for 5 days as well as the conventional occupational therapy. The non-treated side of each subject was used as control. We assessed the neurological status using International Standard for Neurological Classification of Spinal Cord Injury (ISNCSCI), and functional status of upper extremities using the Jebsen hand function and O’conner logical Classıfıcation. We assessed the neurological status using International Standard for Neurological Classification of Spinal Cord Injury (ISNCSCI), and functional status of upper extremities using the Jebsen hand function and O’conner logical Classıfıcation. DDtı was performed on the injured cavernous spinal cord, obtained fractional anisotrophy (FA), apparent diffusion coefficient (ADC) at each level, and calculate imaginary spinal cord tracts of each subject.

Results: The neurological status of the upper extremity motor score in the treated side using ISNCSCI was improved in all subjects otherwise only 10 of 14 subjects (71.4%) showed some improvements of non-treated side at 1 month after treatment. The functional status including the writing score of Jebsen hand function test were also significantly improved more in treated side in comparison with non-treated side at 1 month. The FA values and the number of imaginary spinal cord tracts of treated side at the injured level were also increased more than those of non-treated side in the same subjects. Any side effects such as seizure, severe headache, nausea or vision problem was not observed during rTMS treatment and follow-up period.

Conclusions: The high frequency rTMS was effective to improve the neurological and functional status of CCS patients and might increase the treatment and follow-up period.

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Management of buried penis syndrome: The novel therapeutic DJ- SAM (Deepak Jumani-Sesame Arginine Metformin) approach

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Objectives: Buried penis (hidden penis) is a congenital or acquired condition in which the penis is partially or completely hidden below the surface of the skin. It is an unusual, difficult-to-treat condition that presents a unique clinical challenge. It is an acquired condition in adulthood, most commonly due to predisposing factors such as morbid obesity and diabetes mellitus which are becoming increasingly prevalent, which suggests a potential increase in the incidence of this condition. Although no specific approach is applicable to all patients, a combination of various techniques may be applied. The use of L-arginine gel for erectile dysfunction is well documented, however the use of sesame seed oil applied topically for penile lengthening has not been reported. Both the ingredients are routinely used and have no known side-effects and are being studied for penile lengthening.

Methods: 24 patients in age group 31-45 years, BMI ≥ 36 were administered Metformin SR 1gm/OD, L Arginine 3gm OD along with sesame seed oil (food grade) and 5% L arginine for local application on the shaft of the penis for 12 weeks (DJ-SAM regime). The treatment for the comorbid diseases like diabetes, dyslipidaemia, hypertension, Vitamin D deficiency, COPD, UTI continued as per current standard of care.

Results: The patients were on low carbohydrate, high protein diet and exercise, but were unable to adhere to the exercise regimen. The patients were motivated and adhered to the DJ-SAM therapeutic regimen. Patients reported an increase of penile length to an extent of 2.5 ± 0.56 inches. The changes in the BMI were statistically insignificant.

Conclusion: We postulate that sesame oil along with L-arginine for its topical properties could account for the lengthening of the penis in obese subjects with buried penis. The results of this pilot study as proof in concept highlights the concept of pharmacological modulations in penile lengthening. Metformin in obese BMI patients would have a role as a metabolic hormonal regulator which needs further exploration. Although the exact mechanism of action of sesame seed oil for penile lengthening, is still not known, this is the first study that demonstrates the use of sesame seed oil as a therapeutic agent along with L-arginine gel for topical application.

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Dasatinib related pericardial effusion requiring pericardial drainage

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Introduction: Dasatinib is an oral Bcr-Abl and Src family tyrosine kinase inhibitor approved for use in patients with chronic myelogenous leukaemia (CML) and Philadelphia chromosome positive acute lymphoblastic leukaemia (ALL). Its common side effects include myelosuppression, oedema, diarrhea and nausea. It has also been associated with the formation of pleural and pericardial effusions. As a result, Dasatinib is to be avoided in patients with pre-existing effusions or predisposition to respiratory or cardiovascular disease.

Case description: A fit 62-year-old pilot with no relevant medical history was diagnosed with CML in 2014, and commenced on Dasatinib therapy (100mg OD). A subsequent trans-thoracic echocardiogram (TTE) revealed normal ventricles and cardiac valves. There was however a mild to moderate global pericardial effusion, without haemodynamic compromise. This was regularly monitored with TTEs and remained stable until May 2016, where it measured 2.1cm posteriorly around the LV and 1.0 cm around the RV. Due restrictions imposed by the Civil Aviation Authority in the UK, the patient was referred for pericardial window procedure, prior to being considered fit for flying.

Conclusions: Dasatinib is known to cause pleural and pericardial effusions. This has been reported in patients without any predisposing factors.1 The link with pericardial effusions has been proven with robust statistical analysis.2 No specific mechanism has been proposed but an immune mediated reaction or off target inhibition of growth factors may be involved.3 Management includes dose interruption or reduction, and/ or treatment with steroids.3 Our case report re-enforces that Dasatinib is an important cause of pericardial effusion and TTE is the modality of choice for follow-up. Pericardial window and drainage may be needed in patients where this prohibits them from undertaking employment.

Take-home message: Dasatinib related pericardial effusions are a documented side effect of therapy. One should be vigilant in monitoring patients on the drug as effusions may progress over time and require intervention. TTE is the monitoring modality of choice. As far as we are aware this is the first case report for surgical intervention in a patient with Dasatinib induced pericardial effusion.